



PCT

## RAW SEQUENCE LISTING

DATE: 05/28/2004

PATENT APPLICATION: US/10/050,000B

TIME: 15:37:18

Input Set : A:\2004-04-16 0365-0529P.ST25.txt

Output Set: N:\CRF4\05282004\J050000B.raw

3 <110> APPLICANT: NAKARI-SETALA, Tiina  
5 <120> TITLE OF INVENTION: A METHOD FOR DECREASING THE FOAM FORMATION DURING  
CULTIVATION OF A  
6 MICROORGANISM  
8 <130> FILE REFERENCE: 0365-0529P  
C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/050,000B  
11 <141> CURRENT FILING DATE: 2002-02-20  
13 <160> NUMBER OF SEQ ID NOS: 8  
15 <170> SOFTWARE: PatentIn Ver. 2.1  
17 <210> SEQ ID NO: 1  
18 <211> LENGTH: 2868  
19 <212> TYPE: DNA  
20 <213> ORGANISM: Trichoderma reesei  
22 <220> FEATURE:  
23 <221> NAME/KEY: gene  
24 <222> LOCATION: (1523)..(1950)  
25 <223> OTHER INFORMATION: hfb1  
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30 cgtatcccat tgctgggctg aaagcttcac acgtatcgca taagcgtctc caaccagtgc 180  
31 ttaggtgacc cttaaggata cttagttaaa gactgttata agtcagtca tcttcactc 240  
32 gggctttgaa tacgatccctc aataactcccg ataacagtaa gaggatgata cagcctgcag 300  
33 ttggcaaatg taagcgtaat taaactcgac tgaacggccc ttgttgaag tctctctcga 360  
34 tcaaagcaaa gctatccaca gacaagggtt aagcaggctc actcttccta cgccttggat 420  
35 atgcagcttgc cccagcatcg cgcatggcca atgatgcacc cttcacggcc caacggatct 480  
36 cccgttaaac tccccgttaa ctggcatca ctcatctgtg atcccaacag acttagttgg 540  
37 gggctgcggc tggcggatgt cggagccaaag gatcaattca agagcccaaga tccgggtgg 600  
38 ccattgccaa tggatctaga ttccggcacct tggatctcgat cactgagaca tggtgagttg 660  
39 cccggacgca ccacaactcc ccctgtgtca ttgagtcctt atatgcgtct tctcagcgtg 720  
40 caactctgag acggattagt cctcacgatg aaattaacctt ccagcttaag ttctgtggct 780  
41 tgaatgagtg aaaaatttc aaaaacaaac tgtagtagagg tcttgagcag ctgggggtgg 840  
42 acgcccctcc tcgactcttgc ggacatcgta cggcagagaa tcaacggatt cacacctttg 900  
43 ggtcgagatg agctgatctc gacagatacg tgcttccatca cagctgcagc tacctttgcc 960  
44 caaccattgc gttccaggat ctgtatctac atcacccgacg caccggagcc aggacggaga 1020  
45 gaacaatccg gccacagagc agcaccgcct tccaaactctg ctccctggcaa cgtcacacaa 1080  
46 cctgatattat gatatccacc tgggtgattt ccattgcaga gaggtggcag ttggtgatac 1140  
47 cgactggcca tgcaagacgc ggcggggcta gctgaaatgt ccccgagagg acaattggga 1200  
48 gcgtctatga cggcgtggag acgacgggaa aggactcagc cgtcatgtt gttgccaat 1260  
49 tttagatgtt tgaccggaa aggggggacg aagagatgg ctgggtgagg tggatttggg 1320  
50 agatgcattc attcgactca gtgagcgtatg tagactcca agaatataaa tattcccttct 1380  
51 ctgtcttctc aaaatcttcttccatcttgc tccatctcgac caccagagcc agcctgaaca 1440  
52 cctccagtcacttccatccatc tgaatcaaca tccattctt gaaatctcac 1500  
53 cacaaccacc atcttcttca aaatgaagtt ctgcgcattc ggcgtctctt ttgcggccgc 1560

ENTERED

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54 tgccgttgcc cagcctctcg aggaccgcag caacggcaac ggcaatgtt gcccctccgg 1620  
 55 cctttcagc aacccccagt gctgtgccac ccaagtcctt ggcctcatcg gccttgactg 1680  
 56 caaagtcgt aagttaggcc ataacataag aatcccttgc acggaaatat gccttctcac 1740  
 57 tccttaccc ctgaacagcc tcccagaacg tttacgacgg caccgacttc cgcaacgtct 1800  
 58 ggcggccaaac cggcgcccg cctctctgct gctgtggccc cggtgttaagt tggatgcccc 1860  
 59 gctcaagctc cagtttgg caaacccatt ctgacaccca gactgcaggc cggccaggct 1920  
 60 cttctgtgcc agaccggcgt cgtgtgttga gatgcccggc cgggggtcaag gtgtgcccgt 1980  
 61 gagaagccc acaaagtgtt gatgaggacc atttccggta ctggggaaagt tggctccacg 2040  
 62 tggggca ggtttggca agttgtgttag atattccatt cgtacggccat tcttattctc 2100  
 63 caatatttca gtacacttt ctcataaaat caaaaagact gctattctct ttgtgacatg 2160  
 64 ccggaaaggga acaattgctc ttggctctgt ttatttgc当地 gtaggagtgg gagattcgcc 2220  
 65 ttagagaaaag tagagaagct gtgtgtgacc gtgggtgtgac tcgacgagga tggactgaga 2280  
 66 gtgttaggat taggtcaac gtgttgtgtt atacaggatc gtctggcaac ccacggatcc 2340  
 67 tatgacttga tgcaatggta aagatgaatg acagtgttaag aggaaaagga aatgtccgccc 2400  
 68 ttcagctgat atccaccca atgatacagc gatatacctc caatatctgt gggAACGAGA 2460  
 69 catgacatat ttgtggaaac aacttcaaac agcgagccaa gacctaata tgcacatcca 2520  
 70 aagccaaaca ttggcaagac gagagacatg cacattgtcg tcgaaaagatg gcatcgtaacc 2580  
 71 caaatcatca gctctcatta tcgcctaaac cacagattgt ttgcgtccc ccaactccaa 2640  
 72 aacgttacta caaaaagacat gggcgaatgc aaagacctga aagcaaacc ttttgcgac 2700  
 73 tcaattccct cctttgtcct cgaatgtat atccttcacc aagtaaaaaga aaaagaagat 2760  
 74 tgagataata catgaaaagc acaacggaaa cgaaagaacc aggaaaagaa taaatctatc 2820  
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 77 <211> LENGTH: 3585  
 78 <212> TYPE: DNA  
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 82 <222> LOCATION: (1191)..(1593)  
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 99 <223> OTHER INFORMATION: n = a, c, t, g, unknown, or other  
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 101 <222> LOCATION: (3515)..(3515)  
 102 <223> OTHER INFORMATION: n = a, c, t, g, unknown, or other  
 103 <400> SEQUENCE: 2  
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 105 acactgcccgt cgacgtctct cttccgacct tggccagctg gacaaggcaac acaccaatga 120  
 106 cgctttgttat tatttagtata tattgtatc tcagactat cgtactcaact ctacccaccc 180  
 107 aggacgtatcg cggcacgata cggccctcgat ctcattggcc caaggcacc aactgcccc 240  
 108 ggagcaagat tcagccaaag ggagatggac ggcaggccac gccaggcccc caccaccaag 300  
 109 ccactccctt tggccaaatc agcttgcatg tcaagagaca tcgagctgtg ctttggaaatt 360

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110 actaacaacc agggatggaa aacgaagcct gctttggaa agacaacaat gagagagaga 420  
 111 gagagaggaa gagagacaat gagtgccaca aacctggtag tgctccgcca atgcgtctga 480  
 112 aatgtcacat ccgagtcattt gggcctctgt gagaatgtcc agagaataac gtgtttgcg 540  
 113 aatagtccctc ttcttgagg actggatacc tacgataccc tttttgagtt gatgcgggtgc 600  
 114 tttcgaagta ttatctggag gatagaagac gtcttaggtaa ctacacaaaa ggctataact 660  
 115 ttggggagta gcccacgaa aggttaactcc tacggctct tagagccgtc atagatccta 720  
 116 cagcctcttg gagccgtcat agatcacatc tgttagacc gacattctat gaataatcat 780  
 117 ctcatcatgg ccacatacta ctacatacgt gtctctgcct acctgacatg tagcagtggc 840  
 118 caagacacca aggccccagc atcaagcctc cctacatc ccttccattt tacagcggca 900  
 119 gagagattgc gatgagccct ctccctaccc acagacggct gacaatgtcc gtataccacc 960  
 120 agccaacgtg atgaaaacaa ggacatgagg aacagcctgc gagagctgga agatgaagag 1020  
 121 ggccagaaaa aaaagtataa agaagacctc gattcccgcc atccaacaat ctttccatc 1080  
 122 ctcatcagca cactcatcta caaccatcac cacattcact caactccctt ttctcaactc 1140  
 123 tccaaacaca aacattctt gttgaatacc aaccatcacc acctttcaag atcagttct 1200  
 124 tcgcccgtcgcc cctcttcgccc accagcgcctc tggctgctgt ctgccttacc ggcctttct 1260  
 125 ccaaccctctgtgctgtgcc accaacgtcc tcgacccatc tggcggtgac tgcaagaccc 1320  
 126 gtatgtgaa ttccaatctc tggcgtatcc gacattggac gatacagttg acttacacga 1380  
 127 tgctttacag ctaccatcgc cgtcgacact ggcgcacatc tccaggctca ctgtgccagc 1440  
 128 aagggctcca agcctcttttgcctgctgtccctggtaa gtagtgcctg caatggcaaa 1500  
 129 gaagtaaaaaa gacatttggg cttggatcg ctaactcttccatc atatcaaggc cgaccaggct 1560  
 130 ctcctgtgcc agaaggccat cggcaccc taaagcaatg gcttgctta ctggccggcag 1620  
 131 tctttgagaa ctctggcctc aaaaaagacg acttgcattgt atcatggggg ctcgcaaatg 1680  
 132 ggaggatttg gaggggatttggcctgggtt tggcctattt gaggattgca taatggaa 1740  
 133 ttgcgagca ggacatagac gtatcttagatc ttcttagtcaatc tacattatttggca 1800  
 134 gtatacctat cgctggcact ggtatcttgc agatatcttccatc tcttcttgcg 1860  
 W--> 135 tggcaatcag tcgaaatcta tttgaagaca gagtcacatc ttcaaaacatt caccctngaa 1920  
 136 ttgaccattt tgtttcgatg gttgcagttt gttgggtgtca cttctgcaat catgtacgag 1980  
 137 cacaagtata gcagtattcc atctgatctg catctggta aatgtcgccca ctctacctag 2040  
 138 gtacccaata aataccgaat tggtcagctc tcgggtgaca aaccggcccg ctttcgacc 2100  
 139 gtgctctgtcc aatttcttagg cttgtcaatg gttcctgact gtgataaaacc ttggagctan 2160  
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 141 gcaaacatca cgcaacctgt ctcgatcccc tgcgtggca acgtatcatc 2280  
 142 acaaattatac cacacagaca aaaaggagcc aaagcagcaatg tggcaagaca ccgaggccgg 2340  
 143 cagcgcgcctt gtcgcgttt taaaaaagcg aagcgcacccggcaaaaccc acctgcgc 2400  
 144 acgaacaacg aagccttccc cccgcgcga ggcacagcga cagcgcacagc gacttttctt 2460  
 145 cgtcgaaaga cgaaggccggg cacagagtca agaggcgcacg gaggacgccc gtcgtcaccg 2520  
 146 cccgcgcggaa gggcgcgcgc gcccacacccggcggcgc aacagccgc 2580  
 147 ttacacggcca acagaagcgt cccgattgtt gacagcaacg acgcgcacaa gcacagcaac 2640  
 148 tggtagcactg aggacgcataa ggacgcgcgtc tcggcaaaaga acctccctcgatc atttcgaga 2700  
 149 gegtccaagg acgcgcaccc agacggcactg tacaaggcc tggcgaacca gacgtccctt 2760  
 150 atacaaaaga atccggatgc gccccggaaacg acaggatggc cccgtcaaggc gcctaccaac 2820  
 151 atccgcaccc tcaccattac agattatgcc cccgcacacgt gtaaaagatg agttgcattc 2880  
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 154 gcgtactgac atttcttaga gcctttactg tggtttggc gacaatttgcg agtatcttca 3060  
 155 cgcgagagaa gacctaagg caggctggca gctggatcaa gagtggaaa aggtcaccaaa 3120  
 156 gggcaagaag aacctggggg gaacggtagt ggccagcgcg aaccggaaaca aggccaagg 3180  
 157 ggacgaggcc gacgacgcacg acgacgaaga ggcgtatgc gagaacatcc cgtttgcctg 3240  
 158 catcatctgc agggatcgt acaaggagcc gattgtgcacg aggtgcggcc actacttttgc 3300

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159 cctgccgtgc gctctgcagc ggtacaagaa ggatccgacg tttgcggcggt gtggctcggg 3360  
 160 cacgaatggc gtgttaatt cggcgacgag gttgaagaag ctgctggaga agaagaggaa 3420  
 161 gagggcggcc aggaggagac aggaggcgat agagaggggc gaggaagtca gtgtatgaaga 3480  
 162 ggaggaggag gaggaggact gatgtatgtt gggcnagatg acgtgcagg tcgactctag 3540  
 163 agatccccgg tacccgagctc gaattcatcg atgatatcag atccc 3585  
 166 <210> SEQ ID NO: 3  
 167 <211> LENGTH: 63  
 168 <212> TYPE: DNA  
 169 <213> ORGANISM: Artificial Sequence  
 171 <220> FEATURE:  
 172 <223> OTHER INFORMATION: Description of Artificial Sequence: 5' primer  
 174 <400> SEQUENCE: 3  
 175 actacacgga ggagctcgac gacttcgagc agcccgagct gcacgcagag caacggcaac 60 63  
 176 ggc  
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 180 <211> LENGTH: 30  
 181 <212> TYPE: DNA  
 182 <213> ORGANISM: Artificial Sequence  
 184 <220> FEATURE:  
 185 <223> OTHER INFORMATION: Description of Artificial Sequence: 3' primer  
 187 <400> SEQUENCE: 4  
 188 tcgtacggat cctcaagcac cgacggcggt 30  
 191 <210> SEQ ID NO: 5  
 192 <211> LENGTH: 13  
 193 <212> TYPE: PRT  
 194 <213> ORGANISM: Artificial Sequence  
 196 <220> FEATURE:  
 197 <223> OTHER INFORMATION: Description of Artificial Sequence: linker  
 199 <400> SEQUENCE: 5  
 200 Pro Gly Ala Ser Thr Ser Thr Gly Met Gly Pro Gly Gly  
 201 1 5 10  
 204 <210> SEQ ID NO: 6  
 205 <211> LENGTH: 14  
 206 <212> TYPE: PRT  
 207 <213> ORGANISM: Artificial Sequence  
 209 <220> FEATURE:  
 210 <223> OTHER INFORMATION: Description of Artificial Sequence: linker  
 212 <400> SEQUENCE: 6  
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 214 1 5 10  
 217 <210> SEQ ID NO: 7  
 218 <211> LENGTH: 48  
 219 <212> TYPE: DNA  
 220 <213> ORGANISM: Artificial Sequence  
 222 <220> FEATURE:  
 223 <223> OTHER INFORMATION: Description of Artificial Sequence: 5' primer  
 225 <400> SEQUENCE: 7  
 226 gaattcggta ccctcggtccc tcgcgggtccc gccgaagtga acctggtg 48  
 229 <210> SEQ ID NO: 8

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Input Set : A:\2004-04-16 0365-0529P.ST25.txt  
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230 <211> LENGTH: 34  
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232 <213> ORGANISM: Artificial Sequence  
234 <220> FEATURE:  
235 <223> OTHER INFORMATION: Description of Artificial Sequence: 3'primer  
237 <400> SEQUENCE: 8  
238 tgaattccat atgcttaaccc cgtttcatct ccag 34

RAW SEQUENCE LISTING ERROR SUMMARY                   DATE: 05/28/2004  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:2; N Pos. 19<sup>17</sup>, 21<sup>60</sup>, 35<sup>15</sup>

**VERIFICATION SUMMARY**

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L:10 M:270 C: Current Application Number differs, Replaced Current Application Number  
L:89 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:2  
L:94 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:2  
L:99 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:2  
L:135 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:1860  
M:341 Repeated in SeqNo=2